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MASSACHUSETTS

CROP REPORT

FOR THE

MONTH OF JUNE, 1891.

COMPILED BY

WM. R. SESSIONS,

SECRETARY STATE BOARD OF AGRICULTURE.

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CROP REPORT FOR THE MONTH OF JUNE, 1891.

Compiled from Returns to the Office of the State Board of Agriculture, June 29, 1891.

Office State Board of Agriculture,
Boston, Mass., July 4, 1891.

Bulletin No. 2, Crop Report for the month of June, is herewith presented. These crop bulletins are compiled from data received from selected correspondents in different parts of the State, by means of blanks sent to them monthly. For this issue one hundred and sixty-four such blanks were sent out, and one hundred and twenty-six were returned in time to be incorporated in the bulletin.

The weather data, from observers in some seventeen localities in the State, are received and compiled by an expert in such matters.

These crop bulletins will be mailed as issued to those who have received them in past seasons, and to any others who make application for them. It is believed this kind of work is of value to those engaged in agricultural pursuits, and every effort will be made to make it as valuable as possible. In the circular to correspondents returnable to this office June 29, the first question asked was: "How does the season compare with same date last year?" On account of the changeableness of the season, the frosts of last month and the early part of this month, and the drought following, some crops are unusually well advanced while others are quite backward. It is believed that on the whole the present season compares favorably with last season.

The second question asked was: "How is Indian corn looking, and is the acreage in your vicinity greater than last

year?" The general opinion seemed to be that Indian corn at present is looking very well. Much of it is backward on account of cool, dry weather. In general the acreage is increased over that of last year. Some correspondents report the acreage this year to be twice that of last. According to the report of the Secretary of Agriculture, Washington, 1890, the number of acres of corn in this Commonwealth last year was 54,134, yielding 1,868,000 bushels, valued at $1,307,336. According to the same authority there were in 1888 twelve acres of corn for every thousand acres of land surface.

The third question asked was: "Has haying commenced, and what is the prospect for a crop?" Haying has very generally commenced, but grass being late and the weather unfavorable for curing but little has been secured thus far. It is expected, if the weather be favorable, that haying will commence in earnest the week following July 4. The crop throughout the State is considerably less than that of last year. On moist, newly seeded lands the crop generally promises to be quite good, while on old meadows and on high, dry land it will be small. It is estimated that the crop will be about three-fourths of an average. Complaint is made of injury to standing grass, particularly to June grass, by an insect which causes the tops to turn white before blossoming.

* This insect is a species of thrips (*Limothrips poaphagus*, Com.), a minute, orange-colored insect which conceals itself beneath the sheath of the upper leaf, where it feeds on the stem just above the upper joint, completely killing the stem above, so that by haying time at least one-fourth of the grass is dead and worthless. The insect escapes from the stalk before the "turning white," and nothing can be done, economically, to destroy the insect itself. It would be advisable to discontinue the cultivation of grasses injured by it in localities where the damage done by it is large.

The fourth question asked was: "Do early potatoes promise well, and is the acreage in your vicinity greater than last year?" Most of the correspondents state that early potatoes are looking very well, although some report that

* Dr. C. H. Fernald.

they are somewhat uneven, owing to failure of seed to come up. Judging by the reports received it is estimated that the acreage is considerably greater than that of last year.

The fifth question asked was: "How do dairy products compare in quantity, quality and price with same date last year?" The answers to this question were quite varied. The general opinion seemed to be that dairy products have been a little less in quantity, of about the same quality, and a little better as to prices received.

The sixth question asked was: "What is the outlook for small fruits, and specify the principal ones grown in your town and probable crop compared with previous years?" Generally speaking the outlook for small fruits is from fair to good. The principal kinds grown are strawberries, blackberries, raspberries, grapes, currants, cranberries and cherries. On account of frosts at the time of blossoming and dry weather at time of fruiting the strawberry crop was greatly injured in some sections and probably the crop, as a whole, was not over two-thirds of an average. Blackberries and raspberries promise good crops. Grapes also promise well. There was complaint from certain sections of apples and pears dropping from the trees, and the outlook was for small crops. For some unexplained reason Baldwin trees failed to blossom and the crop of apples will be mostly of other sorts.

An article descriptive of the gypsy moth, containing a brief outline of the work of extermination, will be found printed in the last pages of this bulletin.

The Weather.

Meteorological Data for June, 1891.

Station.	Temperature. Deg. F.					Precipitation.		Prevailing Wind.	Cloudiness. * (0 to 10.) No. of Days.		
	Mean.	Maximum.	Date.	Minimum.	Date.	Total in Inches.	Days with Precipitation.		Cloudy.	Partly Cloudy.	Cloudless.
Amherst,	65.3	93	16	34	5	4.61	8	N. E.	8	16	6
Boston,	65.0	96	16	45	5	3.06	6	W	–	–	–
Concord,	64.0	96	16	37	5	3.43	10	S. W.	12	6	12
Dudley,	69.0	93	16	44	4, 5	1.94	5	W.	11	8	11
Fitchburg,†	65.3	93	16	44	4	3.48	11	W.	8	8	14
Framingham,	60 2	96	16	38	5	3.37	9	–	–	–	–
Ipswich,	65.0	97	16	43	4, 5	4 47	8	N.W.	13	9	8
Lawrence,	67.0	99	16	41	5	3.30	8	NW. SW.	10	9	11
Middleboro',	60.7	93	16	34	5	1.85	7	S. W.	11	10	9
Nantucket,	60.0	76	8	43	18	2.83	9	S. W	10	9	11
New Bedford,	63 8	94	16	38	6	1.63	9	–	–	–	–
Princeton,	–	92	16	41	4	4.99	7	W.	–	–	–
Provinceto'n,	62.6	92	16	39	5	2 14	8	–	–	–	–
Royalston,	67.4	96	16	48	4	5 88	6	N.W	19	4	7
Springfield,	67.7	97	16	40	5	3 50	8	N.	9	12	9
Taunton,	65.4	99	16	37	5	1 91	6	S. W.	12	7	11

* 0 to 3, cloudless; 4 to 7 inclusive, partly cloudy; 8 to 10, cloudy.
† Temperature data from thermometer not self-registering.

Summary.

Temperature (F.). — Monthly mean, 64.6°. Highest monthly mean, 69.0° at Dudley; lowest monthly mean, 60.0° at Nantucket; maximum, 99° at Lawrence and Taunton on the 16th; minimum, 34° at Middleborough on the 5th; range, 65°; greatest local monthly range, 62° at Taunton; least local monthly range, 33° at Nantucket; greatest daily range, 44° at Amherst on the 8th; least daily range, 1° at Ipswich on the 20th. Average temperature for June at Springfield for twenty-four years, 68.6°; average for June, 1891, 67.7°; departure, — 0 9°. Average temperature for June at Boston for twenty years, 65.6°; average for June, 1891, 65.0°; departure, — 0.6°.

Precipitation. — Average, 3.40 inches; greatest, 5.88 at Royalston; least, 1.63 at New Bedford. Average for June at Springfield for forty-four years, 3.79; for June, 1891, 3.50;

departure, — 0.29. Average for June at Boston for twenty years, 3.28; for June, 1891, 3.06; departure, — 0.22.

Prevailing Wind. — South-west.

Thunder-storms. — 1st, 2d, 3d, 16th, 22d, 26th.

Frost. — 5th and 6th (light).

Lunar Halo. — 11th.

High Winds. — Royalston, 27th.

Remarks.

Although the average temperature and total precipitation during June, 1891, varied very little from the normal, in Massachusetts, the extremes of heat and cold and of drought and moisture were well marked. Hot, muggy weather and heavy rains with thunder-storm occurred on the 2d and night of the 3d, as a long, low pressure area moved easterly over New England. The temperature fell rapidly on the 4th, under the influence of cool north-westerly winds, reaching the minimum for the month on the evening of the 5th. A general frost occurred on that morning, though its evil effects were somewhat checked by a thick fog that spread over most low lands. From the 5th to the 16th the weather was generally fair, with only an occasional trace of rain on the 12th, and with steadily increasing temperature from day to day. On the 16th the temperature reached nearly 100°, except at Nantucket. This degree of heat is almost unprecedented so early in the month. The drying winds that prevailed helped to make the drought very severe. The temperature fell rapidly on the 17th, and copious rains fell till the 23d, being particularly heavy on the 22d. Threatening weather, with occasional rain and low temperature, continued till the end of the month. On the 26th a thunder-storm moved easterly over southern New England, accompanied in the Connecticut River valley by considerable hail. It reached western Massachusetts at a little before noon and travelled at the rate of about fifty miles an hour, spreading out and decreasing in energy after it crossed the Connecticut valley. At Chicopee, hail stones were found over one inch in diameter. One-half inch of rain and hail fell at Springfield. At Fiskdale, 1.12 inches of rain fell in twenty-five minutes. At East Haddam, Conn., a team of eight oxen were struck by lightning and five of them killed.

NOTES OF CORRESPONDENTS.

(Mailed to us June 29.)

BERKSHIRE COUNTY.

Becket (W. H. Snow). — Season has been cold and dry, and some crops are backward. Corn is looking well and acreage is greater than last year. Haying has not commenced yet, and will not until after July 4. Very light crop, but is growing fast at present. Early potatoes are looking well. Quantity of milk is less; price of butter fully as high as last year. Apple trees set full, and as yet apples have not fallen off much. The outlook for small fruits is good.

Dalton (W. B. Barton, Jr.). — Indian corn is looking well; fully as large acreage as last year and more ensilage. Haying has commenced, and the prospect for a crop is good, though some will be later than last year. Early potatoes are looking well and the acreage is very large. Cherries appear to be a fair crop. Plums set well, but are rotting some. Strawberries are plenty. I believe everything looks better than one year ago. There will be as much hay; corn is certainly a week earlier; apples have set well and promise a large crop; beef is high; the creamery paid for butter four and one-fourth cents more per pound for March and seven cents more per pound for April than last year.

Cheshire (L. J. Northup). — The season as compared with last year is about the same. Indian corn is looking fairly well, with acreage about as last year. As a general thing haying has not commenced. Early potatoes promise well, and I think the acreage greater than last year. Dairy products do not vary much from last season. The outlook for small fruits, such as strawberries, cherries, plums, etc., is promising.

Lee (A. Bradley). — For grass and corn the season is ten days later than last. Corn stands well. Haying has not commenced. For the last ten days grass has grown wonderfully, but will be light on old meadows and sandy soil. Early potatoes promise well at this date; acreage larger than last year. Dairying is grow-

ing in favor; prices a little better and more firm. Apples promise more than an average at this date. Strawberries have done well. At this date the farmer has reason to rejoice over the fruit and crop prospect.

Sandisfield (Geo. A. Shepard). — Crops are not quite as forward as last year, being checked by drought. Corn stands well, but is a little backward, with acreage about the same. A few have commenced haying. Think the crop will fall short of last year's nearly one-third. Prospect fair for early potatoes, though potato bugs are troublesome. Dairy products increased over last year; quality first class and sales quick. The price for butter will average thus far two cents per pound more than last year. Huckleberries will be abundant and blackberries promise well.

Sheffield (Dwight Andrews). — Season much dryer than last. Indian corn is looking finely and crop is larger than last year. Haying has not commenced and the crop will be light. Early potatoes promise well; acreage greater than last year. Dairy products a trifle better than last season. The apple and pear crops will not be very large. There is a prospect for a good crop of peaches.

FRANKLIN COUNTY.

Buckland (J. D. Avery). — Season more backward than last and has been quite dry. Corn is looking fairly well, though rather backward; think the acreage one-fourth greater than last year. Haying has commenced in earnest. A few small farmers are already through. Think there will be three-fourths of a crop and the quality must be excellent. Early potatoes are looking fairly well, and the acreage must be one-fourth greater than last year. Dairy products about the same as last year in quantity and price somewhat better. Small fruits are grown only to a limited extent.

Conway (J. C. Newhall). — The season thus far has been very changeable, from heat to cold and wet to dry, with a great deal of strong wind. Corn is looking very well at this time; the stand is good and the acreage is greater than last year. Some commenced haying the 22d; most will begin the 29th. I think the hay crop will be one-fourth less, but the quality will be good. Early potatoes not quite up to the average, though there are some very good pieces. Dairy products more in quantity than last year, good in quality; price of butter about two cents higher than a year ago. Apples, pears, cherries and plums will not be average crops. Apples seem to be dropping from the trees.

Deerfield (Charles Jones). — Season about one week later than last year. Corn is looking fairly well. It came up very slowly, but has done well since and a little more is planted than last year.

Early potatoes look well, and the acreage is greater than last year. The outlook for small fruits is good, with about the usual amount raised. Tobacco is all set and is looking well. Onions are not as good as last year, but are growing well.

Leverett (W. L. Boutwell). — Season a little later than last. Corn looks well; acreage larger than last year. Haying has commenced, with prospect of about three-fourths of an average crop. Early potatoes looking finely; acreage about the same as last year. Not enough small fruits raised to comment on. Rain fell last month in time to prevent any serious damage to anything except grass, and all crops are now looking finely.

Northfield (Charles Pomeroy). — Season about one week later than last. Corn not as forward as last year. Since last week's rain it has taken a rapid growth. Very little grass has been cut; it is not as good as last year and on old fields is much lighter. Early potatoes are not as forward as last year; think the acreage greater. The price of butter has been higher at our creamery up to the 1st of June than last year, with an increase in production. Apples will probably not be one-fourth of a crop, as frost injured them. Pears and grapes are looking well.

Orange (Ansel Harrington). — Season cooler, and about a week later than last. Corn is looking well, but is rather backward, with acreage rather larger than last year. Very little haying done yet, and the prospect is fair for an average crop. Early potatoes promise very well, and the acreage is larger than last year. Outlook for small fruits is very poor. Apples in this vicinity were very much damaged by late frosts. Rose bugs are very troublesome.

HAMPSHIRE COUNTY.

Amherst (C. E. Wilson). — Indian corn is looking well and twice the acreage of last year. Haying has commenced with about two-thirds of a crop. Early potatoes promise well, with twice the acreage of last year. Quantity and quality of dairy products about the same as last year, with prices better. The outlook for small fruits is poor. The cold weather and frosts in the latter part of the spring decreased the product of small fruits. Old hay has advanced five dollars per ton.

Goshen (Alvan Barrus). — Season much dryer, and very changeable from heat to cold. Indian corn not large, but is looking well. There is at least a full average acreage. Some early pieces of grass are being cut, but the hay crop will not be over three-fourths of last year's crop. Early potatoes are looking well and a full crop has been planted. There has been a little improve-

ment in dairy products in all respects. Of cultivated strawberries there is a fair crop, but wild ones were killed by late frosts. Cherries and raspberries nearly a failure. The apple crop will be light. There is a tendency to blight in the barley crop.

Northampton (D. A. Horton). — Season not quite as forward as last. Corn is looking fairly well, and about the same acreage as last year. Haying has commenced. On newly seeded and highly cultivated land, crop fairly good; a good deal of our meadows promises no more than two-thirds of a crop. The acreage of early potatoes is greater than last year and they look well. Dairy products about the same as last year in quantity, quality and price. Outlook for small fruits good; strawberries the principal. Apples and pears look well. Tobacco is looking finely, and now bids fair to be a large crop.

Southampton (C. B. Lyman). — Corn is looking fairly well, with increased acreage. Haying commenced the past week. Grass on newly seeded and highly manured lands is very good; on old and neglected lots is light. Early potatoes are looking very well, with an increased acreage. Dairy products fully up to last year in quantity and price better. Think the apple crop will be light. Peaches and grapes set well. Berries suffered from drought. Pastures are looking better than on June 1.

South Hadley (H. W. Gaylord). — Season later than last. Corn ten days late; acreage fifteen to twenty per cent greater than last year. Clover only has been cut. Grass is growing finely now. General haying will commence about July 6. Early potatoes promise well; acreage one-fourth greater than last year. Quantity of dairy products rather less; prices five to ten per cent above last year's. Strawberries one-half a crop. Currants a little better. Raspberries and blackberries promise well.

HAMPDEN COUNTY.

Blandford (E. W. Boise). — The stand of corn is good, with about one-tenth more planted than usual. Haying generally deferred until the week following July 4. On rich lands a fair cut is assured. All potatoes are looking well; if anything the acreage is not as large as last year. All report that cows are doing well this season. Most of the butter made in this section is weekly delivered in valley markets. Apples are looking well. Seeds sown or planted have germinated well. While we have had dry weather drought has not affected us as badly as in valley towns, and the prospect now is for full average crops.

Brimfield (S. W. Brown). — Some ten days ago, when the rain came, things had begun to look badly, but that rain and showers

we have had since have made the prospect for grass much better. As a rule grass will not be fit to cut for eight or ten days later than last year. Oats look better than last year. Indian corn as a rule is good, with acreage about the same as last year. Early potatoes look the best for years. Price of butter a little higher than last year. Outlook not good for small fruits; none grown for market.

Ludlow (C. B. Bennett). — Indian corn is looking very well, with a third more planted than last year. Scarcely any hay has been cut. There is a fair crop on moist manured land, but dry upland is a failure. Early potatoes look well; acreage about the same as last year. Milk and butter are not as plenty as last year; prices about the same. Outlook is quite good for small fruits. The rain of two weeks ago changed the entire face of nature.

West Springfield (N. T. Smith). — Season about a week later than last. Weather dry, with extremes of heat and cold. Indian corn looks well, but is rather backward. Sweet corn came up poorly and has grown slower than usual. The acreage of corn has increased some fifteen per cent. Haying has commenced; will not be over two-thirds of an average crop. Fields of June grass were white from ravages of the maggot in the stalks, and now some fields of timothy are fast turning white from the same cause. Early potatoes are looking promisingly, but the soil is too dry for a large crop; some ten per cent increase in acreage. Potato bugs are plenty. Improvement in dairy products, except in quantity. Strawberries a poor crop, with a few exceptions; cherries good; raspberries, blackberries and currants fully up to the average.

WORCESTER COUNTY.

Barre (J. L. Smith). — Season not as forward as last. Indian corn is looking well; acreage one-fourth greater than last year. Only a few have begun haying. The crop will not be more than two-thirds as large as last year's. The weather is good for a second crop. Early potatoes are looking finely and not many bugs; acreage very much larger than last year. Not as much milk produced as last year; price one cent per can better than last year and very little surplus.

Berlin (P. B. Southwick). — Corn is looking fairly well; acreage about the same as last year. Little haying has been done, and the prospect is for a light crop. Early potatoes are looking finely; think the acreage considerably larger than last year. Should say dairy products are less in quantity than last year, and in quality and price about the same. Outlook for small fruits

fair. Principal small fruits grown are strawberries, raspberries and grapes.

Douglas (Geo. M. Wallis). — Indian corn looks fairly well; acreage fully up to last year. Haying has commenced; crop about one-half of last year's; quality better. Early potatoes look very well; acreage one-tenth greater than last year. Dairy products about the same as last year in quantity and price. Strawberries fair. Cranberries and grapes are in full bloom. Wild berries promise a good crop.

Fitchburg (Dr. Jabez Fisher). — Judging by the data furnished by the Concord grape the season is seven days earlier than 1890, or the average for thirty-five years past. Cut orchard grass June 15; seventy per cent of last year's yield. Other grasses promise about the same or perhaps a little more. Early potatoes promise well; acreage greater than last year. Strawberries are yielding better than last year. Good promise for other berries.

New Braintree (C. D. Sage). — Corn generally is looking well; acreage one-fourth greater than last year. Very little grass has been cut. Recently seeded fields will cut a fair crop, eight to nine tenths. Old mowings winter-killed and injured by dry weather. Acreage of early potatoes about the same as last year; are looking well, but are not as early as last year. Less milk and butter made; prices better and butter twenty per cent higher than last year.

Oakham (Jesse Allen). — Season more backward than last. Indian corn is looking well; larger acreage than last year. Haying has commenced; promises to be perhaps two-thirds of a crop. Early potatoes promise well; acreage greater than last year. Quantity of dairy products a little less than last year; price higher. Outlook for small fruits is good. Principal ones grown in this town are strawberries, currants, blackberries and huckleberries.

Petersham (S. B. Cook). — Corn is looking well; acreage greater than last year. Haying has commenced, and the prospect is that the crop will be much lighter than last year. Early potatoes are looking splendidly; acreage about the same as last year. Dairy products about the same as last year. The outlook is favorable for small fruits. Strawberries, raspberries and currants are as abundant as in previous years.

Templeton (Lucien Gove). — Season as a whole later than last. Indian corn not as forward as last year at same date; acreage greater. Haying has commenced; crop one-third less than last year and of poorer quality. Early potatoes promise well. Less milk, more cream, quality excellent; price of butter higher than last year by three cents per pound. Outlook is good for small fruits. Strawberries, raspberries and blackberries equal to the average of

years. Rain on the 4th; a frost on the 5th, killing vegetables in many instances; then hot and dry up to the 17th; then rainy, cool and cloudy to the 23d; then hot for two days; then much colder; the month closing cold. Thermometer on the 5th registered 37°; on the 16th, 94°; on the 18th, 47°. Pastures are short. Crop of apples will be light.

Upton (B. A. Jourdan). — Season from seven to ten days earlier than last. Corn is looking finely, and the acreage is larger than last year. Haying has not commenced. The prospect is for a fair crop, which I think is worth as much to the farmer, as the quality is better than last year. Early potatoes are looking finely; increased acreage. Outlook poor for small fruits. No one here cultivates them very largely. No apples.

Warren (W. E. Patrick). — Season is backward as compared with last year. Indian corn is looking finely; acreage considerably greater than last year. A few have commenced haying; prospect is that the crop will not be over two-thirds that of last year. Grass on low lands improving very fast now where not winter-killed. Early potatoes are looking extra well. Dairy products less in quantity; quality much better, with a perceptible advance in prices over last year. Shall expect good crops of oats, rye and barley. Pasture feed is not as plenty as usual at this season of the year.

Worcester (H. R. Kinney). — Crops are not quite as forward as last year. Corn looks well but is late; acreage greater than last year. Farmers are just beginning to cut out the roadsides and corners. Old fields of grass are very light; newly seeded fair to good. Early potatoes are uneven in many fields; no apparent increase in acreage over last year. Milk was very short during the hot, dry weather, but is more plenty now. Strawberries will be the lightest crop for several years. Other small fruits look well.

MIDDLESEX COUNTY.

Ashby (G. B. Simonds). — Season not as early as last year. Corn came up well but is backward; acreage larger than last year. No haying done yet. Hay crop generally lighter than last year, but quality better if properly secured. Acreage of early potatoes larger, but prospect for crop not as good as last year. Quantity of dairy products less than last year; quality fully as good, prices a little better. Strawberries, blackberries and raspberries are the principal small fruits in this vicinity; outlook for two first is good, but for raspberries below the average. Apple orchards are looking very healthy; very heavy foliage and no disease apparent at this date, but next to no fruit at all. The culture of grapes is

carried on to quite an extent in this locality, and the prospect for a crop is, I think, generally fully as good as at same date last year.

Chelmsford (P. P. Perham). — Season quite as forward as at same date last year, and most crops are looking very well. Indian corn looks finely, and the acreage is greater than last year. The abundance of rain last week will bring out the hay crop in good shape, but will delay the cutting at least one week. People who thought awhile ago there would not be half a crop have now changed their minds. Acreage of early potatoes about the same as last year; crop promises well. More milk produced than in some years; price about the same. Outlook for small fruits is good.

Concord (Wm. H. Hunt). — The season has been a mixed one. Corn is late; otherwise is looking well, with a slight increase in acreage. Very few fields of grass have been cut. The crop on old fields on light land will be very light, although the rains have helped them some. Newly seeded fields on low lands are looking well. Very early fields of early potatoes were cut by frosts; otherwise looking well. Strawberries three-fourths of a full crop. Most fields were in bloom so as to be injured by two heavy frosts, which took all the blossoms out.

Groton (Daniel Needham). — Corn looks very well; acreage the same as last year. Haying has commenced, and the prospect of a seventy-five per cent crop is assured; it may be larger. Early potatoes promise well; acreage about the same as last year. Dairy products less in quantity than last year; as good in quality; better in price. Recent rains have protected the small fruits. The crop of berries will be large. We have had one frost during the month which injured potatoes on low lands. The month to the 22d was the dryest June I ever knew. At that date all crops in this locality were threatened with great peril. On the 22d came two inches of water, and grass and all vegetation renewed its life, and now the promise of compensating field and garden crops is very good.

Sherborn (N. B. Douglas). — Corn looks well, and more has been planted than usual. Haying has commenced. The hay crop is very light; not more than one-half of last year's yield. Early potatoes look fairly well; acreage about the same as last year. Cows are not giving as much milk as last year; prices of dairy products about the same. Strawberries, cherries and raspberries grown quite large. The former very light; the two latter full crops. More land devoted to stover corn, hungarian, etc., for forage this year than I ever saw before. Cranberries promise a full crop. Apples nearly a total failure.

ESSEX COUNTY.

Danvers (C. H. Preston). — Season compares fairly well with the same date last year. Indian corn looks well; acreage about the same as last year. Haying has commenced and there will be a small crop. Early potatoes are looking well. Milk same price as last year. Small fruits promise well. The principal ones grown here are strawberries, blackberries and currants. The rain was a great help to the strawberry crop, which otherwise would have been a partial failure.

Groveland (Abel Stickney). — Season not quite as early as last. Corn is looking finely; should think acreage one-fifth more. Haying has commenced, but on account of bad weather slow progress has been made. Prospect for crop better than a month ago. Early potatoes are looking uncommonly well; acreage not much greater than last year. Outlook for small fruits is good. Pasture huckleberries and blueberries more than usual.

North Andover (Peter Holt, Jr.). — Grass and most crops are from a week to ten days late. Corn looks small and backward; acreage about the same as last year. Haying has commenced. The hay crop is not as good as last year, although the late rains have very much improved it. The acreage of early potatoes is fully as great as last year, but in many cases they did not come up well. The outlook for small fruits is favorable; the cultivation increases every year; principal ones are strawberries, blackberries, raspberries and currants. On almost any farm small fruits are grown to a greater or less extent for home use if not for market.

Topsfield (B. P. Pike). — Season not as forward as last year. Corn is looking well; increased acreage. Haying has not commenced to any extent; crop not more than three-fourths of an average one. Early potatoes did not come up well; acreage increased. No dairy products but milk; less quantity; same price. Small fruits are looking well, though not many are grown for market. Apples did not set well, and what did set are falling off badly, and the same is true of pears.

West Newbury (J. C. Tarleton). — Season a little later than last year at this time. The acreage of Indian corn is much larger than last year. Haying has not commenced, and I do not think there will be more than two-thirds of a crop. The acreage of early potatoes is larger than last year, and just now the crop is looking well. Prices of dairy products are a little better than last year, but the quantity not so large. The strawberry crop is the principal small fruit crop grown in this vicinity, and this year they ripen very slowly, and I do not think there will be as large a crop as in years past, for many beds were killed out by the cold weather.

NORFOLK COUNTY.

Avon (S. F. Oliver). — Most of the corn grown here is for the silo. Haying has commenced, and the crop, though not quite so heavy, is far better in quality than last year. Early potatoes now promise a good yield. Dairy products are on the increase both in quantity and quality, while prices do not vary very much. Strawberries and cherries are the principal small fruits, and they have been of excellent quality. Apples and pears are looking very well now.

Franklin (C. M. Allen). — Season not as favorable as last. Corn is looking well; average acreage. But little haying has been done; a three-fourths crop. Early potatoes promise well; acreage slightly greater than last year. Dairy products less in quantity than last year; five per cent higher in price. Strawberry crop not as good as last year. Raspberries and blackberries wintered well; are fruiting very heavily and are looking finely.

Medfield (Geo. R. Chase). — Season less favorable than at same date last year. Corn is looking well; acreage larger than last year. Haying, except upon light land, has not commenced. Crop will be less than one-half of the great crop of last year, except on very wet land or on newly seeded land. Early potatoes promise well and the acreage is greater than last year. In quantity of dairy products I note little change; quality and price better than same date last year; at least goods move easier. There is a growing demand for cream in summer, which farmers should cultivate. Small fruits are poor in quality; half a crop in quantity. Strawberries lead, yet this is not a small fruit town.

Medway (Monroe Morse). — Corn is looking fairly well, though the stand is not quite satisfactory; acreage increased ten per cent over last year. Very little hay is cut, and the crop will not be up to the average in quantity. Potatoes promise well and the acreage is increased. Dry weather lessened the flow of milk; prices are higher. Small fruits except strawberries promise good crops, and blackberries and raspberries will be more than average crops. Rose bugs are doing much damage. Spraying with Bordeaux mixture helps to drive them off of grape vines.

BRISTOL COUNTY.

Dighton (A. W. Paul). — Season about the same as last year. Corn is small, but looks well. A few have commenced haying; perhaps two-thirds of a crop of inferior quality. Many early potatoes failed to come up; some increase in acreage. Butter is

higher. Milk mostly sold in the cities. Strawberries are a little more than half a crop. It has been the most disastrous year for strawberry raisers we have ever had. They were never more promising than up to June 1. Then the drought and hot weather burnt them. This was followed by a cold, north-east storm, which filled them with water and blasted and mildewed them. They are our money crop, and their failure has produced a feeling of despondency.

Mansfield (D. E. Harding). — Season not as favorable as last year. Corn is looking finely, with acreage about the same as last year. Haying has commenced, with the crop very light on high ground and fair on low. Early potatoes are looking quite well; acreage does not vary very much. Small fruits are abundant.

Raynham (N. W. Shaw). — Think the season is a week earlier at least than last. Corn is looking well. Haying commenced about June 24, and the crop will probably be an average one. The acreage of early potatoes is much greater than last year, but the dry spell affected them seriously. Strawberries are the principal small fruit grown, and owing to the lack of rain at one time the prospect was very poor, but the rain came in season to revive many fields, so that with the increase of acreage the crop has far exceeded the production of any previous year; prices have not been satisfactory. Rose bugs are very numerous, and there is danger that the grape crop will be destroyed by them.

Swanzey (F. G. Arnold). — Corn is looking well; acreage about double. Haying commenced June 21; about two-thirds of an ordinary crop. Early potatoes look very well; acreage about the same as last year. We sell milk, and the supply is less than the same date last year, with price the same as last year. Strawberries are the principal small fruit and the crop was shortened by drought. Very dry weather until June 18.

PLYMOUTH COUNTY.

Kingston (J. H. Cushman). — The season compares well with last year except for pastures and high grass land. Corn looks well but is late, owing to dry weather. Haying commenced about the 16th. Hay crop on high ground very light, but since the rains the crop on low land is looking well. Early potatoes never looked as well as now, and there is a much greater acreage. Strawberries almost a failure; huckleberries will be good if it is wet.

Marshfield (G. J. Peterson). — It is an average season and all crops are doing well. Corn is looking well and the acreage is greater than last year. The hay crop is lighter than last year and

the rains have damaged the crop already cut. Early potatoes promise better than last year. The demand for good butter and milk increases, and the price likewise. Strawberries are scarce and high in price. The crop near the shore, where the frosts did not fall, is very good. On the whole the farmer is encouraged, and no calamity threatens the crops.

Lakeville (Elbridge Cushman). — There is no marked difference in this season as compared with last. Corn is looking fairly well; acreage about the same as last year. Haying has commenced, with not more than one-half a crop on high ground, but on low ground, on account of recent rains, the crop will be about an average. Potatoes are looking fairly well; acreage about the same as last year. Milk is not as plenty as last year at this date; prices of dairy products have not advanced. Pears have set well. Apples do not promise an abundant crop. The outlook for small fruits is good.

Rochester (Geo. H. Weld). — Season about the same as last. Corn not as forward as last year at this time; about the same acreage planted. Haying commenced June 10, much earlier than usual. There will be about one-half as much hay as last year. Early potatoes are looking well; acreage about the same as last year. Dairy products about the same as last year. Small fruits are looking well. Strawberries are now at their height; about half a crop of them.

West Bridgewater (F. E. Howard). — The thermometer averaged for twenty-nine days, in June this year, at five o'clock A.M., $55\frac{19}{29}°$; for the same number of days last year, taken at the same hour, $55\frac{23}{29}°$. The lowest temperature this year was June 5, 38°; last year June 3, 44°. The highest this year was June 16, 96°. Indian corn though slow in coming up is looking well, and the acreage is greater than last year. Haying has commenced, and the crop will be considerably less than an average one. Early potatoes promise well, and the acreage is greater than last year. Prospect quite good for small fruits.

BARNSTABLE COUNTY.

Brewster (J. H. Clark). — Corn is looking well, and about the same acreage as last year. Haying has commenced; crop about two-thirds of last year's crop (which was very large), though nearly up to the average. Early potatoes promise well; acreage a little larger. Dairy products about the same as last year. Outlook for small fruits very good except for cranberries, the principal one grown. Should think this crop would be below the

average owing principally to the frost the first week in June. Vegetation of all kinds is now looking well.

Dennis (Joshua Crowell). — Season about the same as last. We have experienced two extreme and sudden changes of temperature this month, and to-day (June 27) the temperature is nearer the average of October than that of June. Indian corn fair; acreage not greater than last year. Haying has commenced; crop, except upon low ground, not much over one-half of last year's. Early potatoes are looking well; acreage probably greater than last year and potato slugs plenty. Too early to estimate cranberry crop, though it is looking fair for this date.

Sandwich (J. R. Holway). — Corn is backward, with a larger acreage than last year. Haying began about the 15th, and there will be half a crop or less on most meadows. Acreage of early potatoes about the same as last year, and they promise fairly well. Dairy products below the average in quantity and price. The season has been remarkably cold and dry, with but few warm days and several very sudden changes in temperature.

DUKES COUNTY.

West Tisbury (Wm. J. Rotch). — Corn is looking well, with acreage somewhat greater than last year. Haying has commenced. The May rains were entirely insufficient, and the crop of English hay will not be over one-half that of last year. Early potatoes promise well, with larger acreage than last year. Many strawberries suffered from drought. For other fruits the prospect is fair.

NANTUCKET COUNTY.

Nantucket (C. W. Gardner). — This season much cooler than last and very much dryer. Corn is looking well, but not so forward as last year; acreage one-third more. Haying commenced the 16th on the light lands. On the 17th we had heavy rains and the outlook on the meadows is very much better since, but the crop as a whole will be light. Potatoes are looking well and the acreage fifty per cent greater than last season. Most of the potatoes are early. Dairy products fully up to last year. No small fruits; strawberries mostly spoiled by the frosts.

THE GYPSY MOTH

(*Ocneria dispar L.*).

From Special Bulletin Hatch Experiment Station, November, 1889, C. H. Fernald.

"On the 27th of last June, during my absence in Europe, several caterpillars were received at the Station, from Hon. William R. Sessions, secretary of the Board of Agriculture, with the request for information as to what they were and the best methods of destroying them. These caterpillars were brought into the secretary's office by Mr. John Stetson of Medford, Mass., who stated that they were very destructive in that town, eating the leaves of fruit and shade trees. Mrs. Fernald, who had charge of the entomological work during my absence, determined the insect to be the gypsy moth (*Ocneria dispar* Linn.) of Europe, but as the moths were emerging and laying their eggs for next year's brood, there was nothing to recommend at that time except to destroy the moths and their eggs as far as possible, and prepare for the destruction of the caterpillars when they first appear next spring.

First Importation into America.

"There is a statement in the second volume of the American Entomologist, page 111, published in 1870, and also in Riley's Second Missouri Report on Insects, page 10, that 'only a year ago the larva of a certain owlet moth (*Hypogymna dispar*), which is a great pest in Europe both to fruit

trees and forest trees, was accidentally introduced by a Massachusetts entomologist into New England.'

"These are the only notices I have thus far been able to find of the introduction of this insect into America. Mr. Samuel Henshaw and Dr. Hagen of Cambridge have both informed me that the entomologist who introduced this insect was Mr. L. Trouvelot, now living in Paris, but at that time living near Glenwood, Medford, where he attempted some experiments in raising silk from our native silk worms, and also introduced European species for the same purpose. Dr. Hagen told me that he distinctly remembered hearing Mr. Trouvelot tell how they escaped from him after he had imported them.

"It seems, then, that this was an accidental introduction, but that they have now become acclimated, and are spreading and doing so much damage as to cause very great alarm.

Distribution.

"The gypsy moth is abundant in nearly all parts of Europe, northern and western Asia, and it even extends as far as Japan. (In this country it has been found only in nineteen cities and towns of Massachusetts. The whole of Medford, Malden and Everett and sections of Arlington, Melrose, Somerville, Cambridge and Chelsea are thoroughly infested, while in Stoneham, Winchester, Belmont, Saugus, Revere, Lynn, Lexington, Swampscott, Wakefield, Burlington and Charlestown they have been found more or less prevalent.)

Food Plants.

(It has been ascertained by experiment at the office of the Gypsy Moth Department in Malden, Mass., that they will feed on the following-named trees and plants: maple, elm, willow, horse chestnut, balm of gilead, birch, ash, sycamore, walnut, oak, basswood, witch hazel, pine, spruce, cedar, hemlock, apple, peach, cherry, pear, quince, blackberry, currant, barberry, grape, whortleberry, blueberry, strawberry, hop, cabbage, beet, lettuce, radish, corn, dandelion, woodbine, tulip, hawthorn, azalea, rhododendron, wistaria, hollyhock, wygelia, syringa, rose and Japan quince.)

Danger of Spreading.

"The fact that this insect has now been in this country for the last twenty years, and has not only held its own but has multiplied to such an extent as to cause the entire destruction of the fruit crop and also to defoliate the shade trees in the infested region, is sufficient cause for alarm. The citizens of Medford are immediately interested, but the entire Commonwealth and country are threatened with one of the worst insect pests of all Europe. In 1817 the cork-oaks of southern France suffered severely from the attacks of this insect. One of the papers of that time stated that the beautiful cork-oaks which extended from Barbaste to the city of Podenas were nearly destroyed by the caterpillars of the gypsy moth. After having devoured the leaves and young acorns they attacked the fields of corn and millet, and also the grass lands and fruit trees.

"In 1878 the plane trees of the public promenades of Lyons were nearly ruined by this same insect. Only last summer (1889) I saw the moths in immense numbers on the trees in the zoölogical gardens of Berlin, where the caterpillars had done great injury; and the European works on entomology abound with instances of the destructiveness of this insect. When we consider its long list of food plants, we can see how injurious this insect may become if allowed to spread over the country and become established.

"The opinion was expressed to me by prominent entomologists in Europe, that if the gypsy moth should get a foothold in this country it would become a far greater pest than the Colorado potato beetle, because it is so prolific, and feeds on so many different plants, while the potato beetle confines itself to a small number.

Description of the Insect.

"The males (Fig. 1) are of a yellowish brown color, with two dark brown lines crossing the forewings, one at the basal third, the other on the outer third, somewhat curved, and with teeth pointing outwards on the veins. The outer end of all the wings is dark brown. A curved dark brown spot (*reniform*) rests a little above the middle of the wing, and a

small round spot of the same color (*orbicular*) is situated between this and the base of the wing, just outside of the inner cross-line. A similar spot rests near the middle of the base of the wing. The fringes on the forewings are dull yellowish, and broken by eight brown spots. The antennæ

Fig. 1.

are strongly bipectinated, or feather-like. The forewings expand about an inch and a half.

"The females (Fig. 2) are pale yellowish white, with dark brown cross-lines and spots similar to those of the males. The cross-lines in both sexes are much darker and more prominent on the forward edge of the wings (*costa*) than elsewhere. In some specimens there is a faint stripe of brown across the middle of the wing (*median shade*), and a toothed line across the wing near the outer edge (*subterminal*

Fig. 2.

line). The fringes of the forewings have eight dark spots between the ends of the veins, as in the males, and similar but fainter spots often occur in the fringes of the hind wings. The body is much stouter than in the males, and the antennæ are not so heavily feathered. The expanse of wings is from one and three-fourths to two and three-fourths inches.

"The eggs are globular, about one-eighteenth of an inch in diameter, nearly salmon colored and with a smooth surface. They are laid on the under side of the branches, on the trunks of the trees, often below the surface of the ground, where the latter has shrunk away from the tree, and not infrequently on the fences or on the sides of buildings. They are laid in oval or rounded masses, often to the number of four hundred or five hundred, and covered with ochre yellow hairs from the abdomen of the female. The eggs are laid in the early part of July, but do not hatch till the following spring. The caterpillars remain together, feeding upon the leaves, and when not feeding they habitually rest side by side on the branches and trunks of the trees.

"The full-grown caterpillar (Fig. 3) is about an inch and three-fourths in length, very dark brown or black, finely

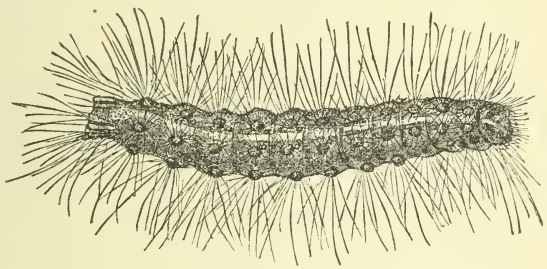

Fig. 3.

reticulated with pale yellow. There is a pale yellow line along the middle of the back and a similar one along each side. On the first six segments following the head there is a bluish tubercle armed with several black spines on each side of the dorsal line, and on the remaining segments these tubercles are dark crimson red. In the middle of the tenth and eleventh segments there is a smaller red tubercle notched at the top. The whole surface of the body is somewhat hairy, but along each side the hairs are long and form quite dense clusters.

"The pupa (Fig. 4) is from three-fourths of an inch to an inch in length, and varies in color from chocolate to reddish brown. On each side, at the base of the wing-covers, is a dark reddish brown, oval, velvety spot. The wing-cases are quite broad and reach to the posterior third of the fifth seg-

ment. The antennæ cases are strongly curved, and are quite wide in the middle. There are a few yellowish brown hairs on the face and head, also on the first five segments, arranged in broken circles or clusters, which are in longitudinal and transverse rows. The *cremaster* or spine at the

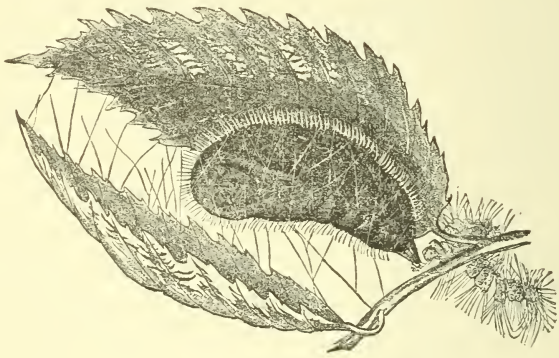

Fig. 4.

posterior end is flattened, rounded at the outer end, grooved longitudinally, and has twelve or more minute hooks at the end. The moths emerge from the pupæ from the first to the middle of July."

The foregoing was prepared by Professor Fernald from knowledge acquired largely from European sources. Observation in this country shows some slight variation in dates of transformation, size of insect in the various stages, etc.

Outline of Work of Extermination.

The Legislature of 1890, on petition of the Board of Agriculture and citizens of Medford and vicinity, provided, by an act approved March 14, for the appointment of a commission to take the matter of extermination in charge, and appropriated $25,000 for the purpose. The Governor appointed as commissioners: W. W. Rawson of Arlington, J. Howard Bradley of Malden and Dr. Pearl Martin of Medford. The commission took hold of the work promptly but found the task greater than was supposed and that the appropriation would be insufficient, and consequently applied to the Legislature for an additional appropriation of $25,000,

which was granted by an act approved April 2. The commission employed more than one hundred men during the season for work, spraying a large territory with Paris green and killing an immense number of caterpillars. They also destroyed an incredible number of the eggs of the moth both in the spring of 1890 before the caterpillars emerged and in the fall after the eggs for the next year's crop were laid. The amount expended in 1890 was $25,539.32. On March 4, 1891, Wm. R. Sessions of Hampden, Prof. N. S. Shaler of Cambridge and F. H. Appleton of Lynnfield were appointed commissioners and immediately organized a force for work, engaging E. H. Forbush of Worcester as director of field work. The first work was an attempt to locate the entire territory infested. This was done by parties of young men who searched the country for miles around Medford, using powerful opera-glasses to aid in discovering the nests of eggs. Only reliable men could be of use, and the commissioners and director found it almost impossible to secure the requisite number. A squad of ten or more from the Agricultural College have been exceedingly helpful, and most of them have been made superintendents of work. By an act approved April 17 the Legislature transferred the work to the Board of Agriculture, and the Board, at a special meeting April 28, appointed Wm. R. Sessions, N. S. Shaler and F. H. Appleton a committee to act for the Board. It was found that the residue of last year's appropriation would be insufficient to carry on the work for the season, and the Board petitioned the Legislature for an additional appropriation of $50,000, which was granted by an act approved June 10. The work of extermination is now going on, and about 250 men are employed. The work at this season is spraying the trees and shrubbery throughout the infested territory with Paris green and water, one pound of Paris green to 150 gallons of water. The country in all directions is patrolled by expert scouts on the lookout for stray colonies of the creatures, that new centres of infection may not be established. Prof. C. H. Fernald, entomologist to the Board of Agriculture and professor of zoölogy at the Agricultural College, is the adviser of the committee in all parts of the work. The task is almost herculean but it is

believed it is possible to eradicate the pest. The utmost efforts for this end are being put forth by those having the work in charge.

On a recent visit of inspection by Dr. Fernald his attention was called to the eggs which a native parasite was laying upon the bodies of the caterpillars. In his report to the committee June 26, 1891, he says: "What seems to me to be by far the most important result of our inspection was the discovery of parasites on the caterpillars. In one locality in Arlington, where we found the caterpillars numerous, we discovered the eggs of a dipterous insect, probably a *Tachina*, on many of them, the majority having a single white egg on the back, while some had two or three, or more, and on one there were eight eggs. I collected a large number of these infested caterpillars and requested Mr. Forbush to have them properly cared for at the office. If these eggs hatch and the parasites pass their transformations and destroy the caterpillars of the gypsy moth, we shall have an acclimated parasite of greater value than any foreign species could be, and shall avoid the delicate and expensive operation of importing parasites from Europe."